

Appln. No.: 09/881,597

Reply to Office Action of August 10, 2007

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)
2. (Currently Amended) The method of claim 50 further comprising ~~the step of specifying a~~ feature-value set for a plurality of ~~user-network~~ terminal devices, said feature-value set including a set of selected device features with one or more discrete feature values assigned to each said selected device feature, each said selected device feature selected from the features of the plurality of ~~user-network~~ terminal devices in accordance with a pre-established criterion.
3. (Original) The method of claim 2 wherein said set of selected device features comprises a member of the group consisting of display size, aspect ratio, display line count, color capability, graphics capability, variable size text capability, different font capability, input capability, and input bandwidth.
4. (Original) The method of claim 2 wherein said pre-established criterion includes a determination that a particular said selected device feature affects the manner in which the authored content is presented.
5. (Original) The method of claim 2 wherein said feature value set comprises discrete values assigned to selected features of a generic network terminal device.
6. (Currently Amended) The method of claim 5 wherein said generic network terminal device comprises a set of device features selected from the display features of the plurality of ~~user-network~~ terminal devices.
7. (Cancelled)

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8. (Currently Amended) The method of claim 50 wherein said step of converting the device-independent content comprises the step of identifying a metatag section of ~~invoking~~ said markup information corresponding to the device feature values associated with the ~~user~~-network terminal device.

9. (Previously Presented) The method of claim 50 wherein said step of converting the device-independent content comprises the step of removing said markup information from said device-independent content.

10. (Currently Amended) The method of claim 50 further comprising ~~the steps of~~:
automatically analyzing said device-independent content; and
automatically embedding meta-data into said device-independent content, said meta-data comprising device feature values based on the device-independent content.

11. (Currently Amended) The method of claim 50 wherein said requesting ~~user~~-network terminal device comprises at least one of a wireless telephone and a personal digital assistant.

12. (Currently Amended) The method of claim 50 further comprising ~~the step of~~ identifying said requesting ~~user~~-network terminal device prior to said step of identifying one or more of the device feature values associated with the ~~user~~-network terminal device.

13. (Currently Amended) The method of claim 12 wherein said step of identifying said requesting ~~user~~-network terminal device comprises ~~the step of~~ reading network terminal device information contained in said request.

14. (Currently Amended) The method of claim 50 wherein said step of converting the device-independent content comprises ~~the steps of~~:
determining the array of display pixels available in said requesting ~~user~~-network terminal device based on the device feature values associated with the ~~user~~-network terminal device;

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comparing said array of display pixels with an array of image pixels corresponding to an image in the device-independent content;
selecting said image for display in said requesting ~~user~~-network terminal device if said array of image pixels does not exceed said array of display pixels; and
suppressing said image from display if said array of image pixels does exceed said array of display pixels.

15. (Currently Amended) The method of claim 50 wherein said step of converting the device-independent content comprises ~~the steps of~~:

determining an aspect ratio for said requesting ~~user~~-network terminal device from the device feature values associated with the ~~user~~-network terminal device;
sending content marked with an attribute of square to said requesting ~~user~~-network terminal device if said aspect ratio is square;
sending content marked with an attribute of portrait to said requesting ~~user~~-network terminal device if said aspect ratio is portrait; and
sending content marked with an attribute of landscape to said requesting ~~user~~-network terminal device if said aspect ratio is landscape.

16. (Currently Amended) The method of claim 50 wherein said step of converting the device-independent content comprises ~~the steps of~~:

determining that said device-independent content is marked as having a uni-axis free form characteristic;
identifying the number of segments supported by the display in said requesting ~~user~~ network terminal device;
concatenating a number of rows for sending to said requesting ~~user~~-network terminal device if said uni-axis free form characteristic includes a list characteristic, wherein said number of rows corresponds to said number of segments supported; and
concatenating a number of columns for sending to said requesting ~~user~~-network terminal device if said uni-axis free form characteristic includes a column characteristic,

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wherein said number of columns corresponds to said number of segments supported.

17. (Currently Amended) The method of claim 50 wherein said step of converting the device-independent content comprises ~~the steps of~~:

determining that said device-independent content is marked as having bi-axially free form characteristic;

identifying the character count supported by a display in said requesting ~~user~~-network terminal device;

sending to said requesting ~~user~~-network terminal device a segment of content, wherein the character count in said segment corresponds to said character count supported by said display.

18-19. (Cancelled)

20. (Currently Amended) The ~~communication~~-system of claim 51 further comprising a device profile repository accessible by said network terminal device detector, said device profile repository including a feature-value set for the requesting ~~user~~-network terminal device, said feature-value set including a set of selected ~~user~~-network terminal device features with one or more discrete device feature values assigned to each said selected ~~user~~-network terminal device feature.

21. (Currently Amended) The ~~communication~~-system of claim 51 further comprising a content repository accessible by said origin server, said content repository for storing annotated authored content whereby said origin server provides device-independent content from said annotated authored content.

22. (Currently Amended) The ~~communication~~-system of claim 51 wherein said at least one ~~user~~-network terminal device feature value is selected from the features of the requesting ~~user~~-network terminal device in accordance with a pre-established criterion.

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23. (Currently Amended) The ~~communication~~ system of claim 51 wherein said set of device feature values associated with the requesting ~~user~~ network terminal device comprises a member of the group consisting of display size, aspect ratio, display line count, color capability, graphics capability, variable size text capability, different font capability, and input capability.

24. (Currently Amended) The ~~communication~~ system of claim 51 wherein said requesting ~~user~~ network terminal device comprises at least one of a wireless telephone and a personal digital assistant.

25. (Cancelled)

26. (Currently Amended) The computer readable media method of claim 52 wherein said step of converting comprises ~~the step of~~ converting the content by interpreting metatags embedded in the content.

27. (Currently Amended) The computer readable media method of claim 52 wherein said step of converting comprises ~~the step of~~ converting the content into a landscape-formatted display format if the terminal device has a landscape-formatted display, and converting the content into a portrait-formatted display format if the terminal device has a portrait-formatted display.

28. (Currently Amended) The computer readable media method of claim 52 wherein said step of converting comprises ~~the step of~~ converting the content into a first aspect ratio if the terminal device has said first aspect ratio, and converting the content into a second aspect ratio if the terminal device has said second aspect ratio.

29. (Currently Amended) The computer readable media method of claim 52 wherein said step of converting comprises ~~the step of~~ converting the content into a small-sized image if the

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terminal device accommodates only small-sized images, and converting the content into a large-sized image if the terminal device accommodates large-sized images.

30. (Currently Amended) The computer readable media method of claim 52 further comprising ~~the step of~~ annotating the content with meta-data to indicate the manner in which portions of the content should be represented on a plurality of different terminal devices having ~~mutually~~ incompatible display characteristics.

31. (Currently Amended) The computer readable media method of claim 52 wherein said step of converting comprises ~~the step of~~ performing a best-fit match between said device display characteristics and one of a plurality of display formats.

32. (Cancelled)

33. (Currently Amended) The method of claim 53, wherein identifying step (b) comprises determining a device type of the requesting data processing device, and looking up the one or more display feature values based on the device type.

34. (Previously Presented) The method of claim 53 wherein one of said one or more display feature values corresponds to a display size of the requesting data processing device.

35. (Previously Presented) The method of claim 53 wherein one of said one or more display feature values corresponds to an aspect ratio of the requesting data processing device.

36. (Previously Presented) The method of claim 53 wherein one of said one or more display feature values corresponds to a display line count of the requesting data processing device.

37. (Previously Presented) The method of claim 53 wherein one of said one or more display feature values corresponds to a color capability of the requesting data processing device.

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38. (Previously Presented) The method of claim 53 wherein one of said one or more display feature values corresponds to a variable size text capability of the requesting data processing device.

39. (Previously Presented) The method of claim 53 wherein one of said one or more display feature values corresponds to a multiple font capability of the requesting data processing device.

40. (Previously Presented) The method of claim 53 wherein one of said one or more display feature values corresponds to an input capability of the requesting data processing device.

41. (Previously Presented) The method of claim 53 wherein one of said one or more display feature values corresponds to an input bandwidth of the requesting data processing device.

42. (Cancelled)

43. (Previously Presented) The method of claim 53, wherein said converting step comprises removing the annotations from the device-independent content.

44. (Previously Presented) The method of claim 53, wherein said requesting data processing device comprises a wireless telephone.

45. (Currently Amended) The method of claim 53 wherein converting step (e) ~~comprises the steps of:~~

determining an array of display pixels available in said requesting data processing device based on the one or more display feature values;

comparing said array of display pixels with an array of image pixels corresponding to a content image;

selecting said content image for display in said requesting data processing device if said array of image pixels does not exceed said array of display pixels; and

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suppressing said content image from display if said array of image pixels does exceed said array of display pixels.

46. (Currently Amended) The method of claim 53, wherein converting step (e) comprises ~~steps of:~~

determining an aspect ratio for said requesting data processing device based on the one or more display feature values; and

sending device-specific content in the determined aspect ratio to said data processing terminal device.

47. (Previously Presented) The method of claim 46, wherein said aspect ratio comprises a square aspect ratio.

48. (Previously Presented) The method of claim 46, wherein said aspect ratio comprises a portrait aspect ratio.

49. (Previously Presented) The method of claim 46, wherein said aspect ratio comprises a landscape aspect ratio.

50. (Currently Amended) A method ~~for providing device-specific content~~, comprising:

receiving device-independent content comprising markup information identifying one or more device feature values associated with the device-independent content, wherein the device-independent content is responsive to a content request from a ~~user~~-network terminal device;

identifying one or more device feature values associated with the ~~user~~-network terminal device;

matching at least one of the device feature values associated with the device-independent content with at least one of the device features values associated with the ~~user~~ network terminal device;

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based on said matching, converting the device-independent content into device-specific content adapted to said ~~user~~-network terminal device; and
providing the device-specific content to the ~~user~~-network terminal device.

51. (Currently Amended) A system, comprising:

a network terminal device detector configured to receive ~~for receiving~~ a content request from a ~~user~~-network terminal device and to determine ~~determining~~ therefrom one or more device feature values associated with the requesting ~~user~~-network terminal device;

an origin server configured to receive ~~for receiving~~ said content request and, in response thereto, to provide ~~providing~~ device-independent content corresponding to said content request, wherein said device-independent content comprises markup information identifying one or more device feature values associated with the device-independent content;

a transformer configured to receive ~~for receiving~~ said device-independent content from said origin server, to associate ~~for associating~~ at least one of the device feature values associated with the device-independent content with at least one of the device features values associated with the ~~user~~-network terminal device, and to transform ~~for transforming~~ said device-independent content into device-specific content formatted for the requesting ~~user~~-network terminal device.

52. (Currently Amended) ~~A method of presenting content to a terminal device, said method comprising the steps of:~~ One or more computer readable media storing computer executable instructions that, when executed, perform a method comprising:

receiving a request for content from a terminal device;

based on said request, identifying one or more device display characteristics associated with the terminal device;

receiving content responsive to the request, wherein said content comprises markup information identifying one or more content display characteristics, said content

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display characteristics expressing an author intent for displaying said content on a plurality of devices having different display characteristics;
matching one or more device display characteristics with one or more content display characteristics;
based on said matching, converting the content into a device-dependent format compatible with one or more device display characteristics of the terminal device;
and
transmitting said device-dependent formatted content to the terminal device.

53. (Currently Amended) A method ~~for providing device-specific content~~ comprising: ~~steps of:~~

(a) —receiving a request for content from a data processing device;

(b) —identifying one or more display feature values associated with the requesting data processing device;

(c) —receiving device-independent content responsive to the request for content, the device-independent content comprising embedded annotations specifying author intent for displaying the content on a plurality of devices having different display characteristics, said embedded annotations including one or more content display feature values;

(d) —matching one or more display feature values associated with the requesting data processing device with one or more content display feature values in the embedded annotations in the device-independent content; and

(e) —converting the device-independent content into device-specific content based on said matching, said device-specific content compatible with one or more display feature values associated with the requesting data processing device.

54. (Previously Presented) The method of claim 50, wherein the markup information comprises a first metatag identifying a first value for a first device feature and a second metatag identifying a second different value for the first device feature.

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55. (Previously Presented) The method of claim 54, wherein the first metatag is associated with a first portion of requested content and the second metatag is associated with a related second portion of requested content, and wherein only one of the first portion and the second portion is included in the device-specific content.

56. (Currently Amended) An apparatus comprising:

a processor configured to control ~~controlling~~ some operations of the apparatus in conformance with computer executable instructions stored in memory, said instructions comprising:

receiving device-independent content comprising markup information identifying one or more device feature values associated with the device-independent content, wherein the device-independent content is responsive to a content request from a ~~user~~-network terminal device;

identifying one or more device feature values associated with the ~~user~~-network terminal device;

matching at least one of the device feature values associated with the device-independent content with at least one of the device features values associated with the ~~user~~-network terminal device;

based on said matching, converting the device-independent content into device-specific content adapted to said ~~user~~-network terminal device; and
providing the device-specific content to the ~~user~~-network terminal device.

57. (New) The apparatus of claim 56, wherein a plurality of said device feature values associated with the network terminal device each corresponds to a member of the group consisting of display size, aspect ratio, display line count, color capability, graphics capability, variable size text capability, different font capability, and input capability.

58. (New) Apparatus, comprising:

a processor configured to control at least some operations of the apparatus;

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a transceiver configured to send data to and receive data from a wireless telecommunications system;

memory storing computer executable instructions that, when executed by the processor, cause the apparatus to:

send a request for content stored as device-independent content comprising a markup-language defined page, wherein said request comprises an indication of a type of the apparatus;

receive said content as device-dependent content, wherein said device-dependent content comprises a modified version of the device-independent content, said modifications based on the type of the apparatus.

59. (New) The apparatus of claim 58, wherein said content has been modified based on markup information identifying one or more device feature values associated with the device-independent content.

60. (New) The apparatus of claim 58, wherein the device feature values correspond to physical characteristics of the apparatus.

61. (New) The method of claim 50, wherein the device feature values correspond to physical characteristics of the network terminal device.